CSUN CIRM Bridges3.0 Stem Cell Research & Therapy Training Program

Grant Award Details

CSUN CIRM Bridges3.0 Stem Cell Research & Therapy Training Program

Grant Type: Bridges

Grant Number: EDUC2-12718

Project Objective: This program provides stem cell training for up to 10 students per year (undergraduate or other level) at CSU Northridge. Training includes coursework, patient engagement opportunities, outreach activities, and a 12 month internship at UCLA.

Investigator:

Name:	Cindy Malone
Institution:	The University Corporation at California State University, Northridge
Type:	PI

Award Value: $3,606,500

Status: Active

Grant Application Details

Application Title: CSUN CIRM Bridges3.0 Stem Cell Research & Therapy Training Program

Public Abstract: The main focus of the CIRM Bridges3.0 Stem Cell Research & Therapy Training Program is heavily weighted on goal-oriented practical laboratory training experience in stem cell biology and stem cell-based patient therapies. Our program is integrated with educational, ethical, and guidance features for highly qualified and culturally diverse senior undergraduate students. Our internship-host institution provides mentors who are world-leaders in fundamental stem cell research and therapeutic translational applications. There is a great diversity of available hands-on training environments in human and mouse embryonic and adult or cell type-specific stem cell biology, spanning the basic to translational investigative spectrum. Our partnership achieves all of the major Bridges Program objectives including: 1) training laboratory personnel in current stem cell research techniques, policy, and ethics, 2) introducing community outreach, patient advocacy, and career counseling for future stem cell-based therapies, and 3) facilitating the entry of an ethnically and culturally diverse student population into the emerging world of stem cell biology and regenerative medicine. Our training program will provide CIRM trainees with opportunities to study the latest advances in stem cell biology, to present their own work in settings in which they can obtain constructive feedback, to interact with their peers in formal and informal forums, to meet leaders in the field, to interact with patients, and to develop their career potential through advisement and mentoring. CIRM internships at our host institution will be 12 months in duration for undergraduate students in screened and selected labs and will be preceded by intensive training at CSUN and at Pathways to Stem Cell Science. The majority of intern time will be spent on laboratory research. Trainees will be taught stem cell and essential analysis techniques such as microscopy, cell sorting, and good laboratory practices (GLP) in the internship-host lab and affiliated cores. Their projects will be discussed and chosen in partnership with the lab mentor, who will pair trainees with more advanced senior graduate or post-doctoral students working in the area of the trainee's project. This hands-on experience will be supplemented by participation in weekly research work in progress meetings, attendance at the weekly stem cell seminar series, attendance at Regional, National, and International Stem Cell Symposia, by career counseling, community outreach, patient advocacy, and by formal and informal mentoring by home and host-institution faculty. A major purpose of our inter-institutional training program is to provide an opportunity for engaged, interested, and successful trainees to gain the necessary skills and qualifications to springboard into careers in stem cell research that spans the spectrum, from basic studies to translational approaches to stem cell-based patient therapies, in academia and industry.

Statement of Benefit to California:	With the substantial amount of spending in connection with its operations, our institution has immense economic, fiscal, and social impacts far beyond the Northridge community. Our institution has an overall economic impact of nearly $1.9. Economic output generated by our institution-related spending generated nearly $677.6 million in increased wages and earnings, raising labor income across the state. Of the total labor income generated, $588.6 million landed in Los Angeles County. The additional income generated by our institution-related expenditures was largely spent within the local economy, which together with the increased demand for labor driven by these expenditures, resulted in a cumulative total of 11,774 jobs supported across all industries in California. Of these new jobs, 10,369 originated in Los Angeles County. Our institution employees provided added value to state and local governments in the form of increased tax revenue at a total of $122.1 million. Our trainees will have a tangible health and economic impact on California, its academic institutions, and its biotechnology, pharmaceutical, and stem cell companies, and the rest of the nation as California and its people move forward with personalized medicine during the 21st century. Our host institution is an economic powerhouse for Los Angeles, Southern California and California overall. Our host institution generated a total of $11.06 billion in economic activity and supported more than 72,700 full-time jobs throughout the state during the 2016–17 fiscal year. With more than 45,000 students and 43,000 employees, our host institution is renowned around the world for the quality of its students and faculty, and its dedication to its mission of research, teaching and service. During the 2016-17 fiscal year, our host institution faculty received over $1.06 billion in sponsored research funding. Our host institution is consistently ranked each year as one of the best universities in the United States, including as the No. 1 public University in the Nation by U.S. News & World Report and as No.1 among best-value universities by Forbes. Approximately 259 licensed companies have been created based on the technology developed at our host institution. An active portfolio of approximately 3,000 inventions and more than 1000 patents reflects clearly that our host institution plays a central role in shaping our world.